

**REMARKS**

This Amendment is in response to the Office Action mailed October 20, 2005, wherein the Examiner rejected claims 1-17, all the claims in the application. Reconsideration of the application in view of the amendments presented herewith and the following remarks is respectfully requested.

Initially, Applicant would like to thank the Examiner for the careful consideration given this case. Claims 1-17 remain pending in this application.

Prior to discussing the rejections, Applicant takes this opportunity to set forth the following brief remarks about his new filter sensor and indicator for vacuum cleaners.

Applicant's unique new filter sensor and indicator for vacuum cleaners provides indication to a user that a filter in a vacuum cleaner requires cleaning or replacing. See Abstract. In one embodiment, the pressure actuated electrical switch measures the pressure drop across the filter and the flow inducing device to determine whether a minimum absolute pressure threshold has been exceeded. In another embodiment, the pressure actuated electrical switch measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement. None of the cited references disclose or suggest a filter sensor and indicator for vacuum cleaners as disclosed and claimed in the application. Moreover, none of the cited references even mention or suggest a filter sensor and indicator for vacuum cleaners where the pressure actuated switch is closed to complete the circuitry between the indicator and electrical power source in response to an increase in pressure drop across the filter or the pressure between the filter and motor indicating that the filter requires cleaning or replacement. Thus, Applicant is entitled to claim the a filter sensor and indicator for vacuum cleaners wherein the pressure actuated switch is closed to complete the circuitry between the indicator and electrical power source in response to an increase in pressure drop across the filter or the pressure between the filter and motor indicating that the filter requires cleaning or replacement.

### **Specification**

The Examiner objects to the specification because in the paragraph at page 7, line 4, the phrase “pressure valve 126” should be replaced with --pressure switch 120--. The Examiner also objects to the specification because in the paragraph at page 7, line 5 and 7, the phrase “pressure valve 120” should be replaced with --pressure switch 120--. Accordingly, Applicant has replaced the phrase “pressure valve 126” with --pressure switch 120-- and the phrase “pressure valve 120” with --pressure switch 120-- in the specification as the Examiner suggests on page 7. Applicant has also amended the paragraph at pages 5-6, lines 16-27 and lines 1-3 to correct minor typographical errors. Applicant respectfully submits that no new matter has been added and that this objection is rendered moot. Therefore, Applicant respectfully requests withdrawal of this objection.

### **Claim Objections**

The Examiner objects to claim 5 because the word “space” should be the word --spaced--. The Examiner also objects to claim 6 because the phrase “the vacuum device” should be replaced with the phrase --the vacuum cleaner--. In addition, the Examiner also objects to claim 7 because the phrase “when said indicator is connected to said indicator” should be replaced with the phrase --when said indicator is connected to said power source--. To expedite prosecution of this application, Applicant has amended the claims as the Examiner suggests. Applicant respectfully submits that no new matter has been added and this objection is rendered moot. Therefore, Applicant respectfully requests withdrawal of this objection.

### **Rejection Based On Martin Under 35 U.S.C. 102(b)**

The Examiner rejected Claims 1-3 and 5-16 under 35 U.S.C. § 102 (b) as being anticipated by U.S. Patent No. 4,733,431 to Martin (“Martin”). Applicant respectfully traverses this rejection for the following reasons.

For a rejection to be sustained under 35 U.S.C. § 102 (b) each and every element of the claimed invention must be disclosed in the cited prior art. Martin discloses a vacuum cleaner with performance monitoring system that “includes sensors for monitoring the differential pressure between (1) an intake port and the dust collecting compartment, (2) the outside of the vacuum

cleaner and the intake port and (3) the discharge from the vacuum cleaner and the dust collecting compartment.” See Col. 2 lines 40-45. However, Martin does not disclose a pressure actuated electrical switch that responds to an increase in pressure drop across a filter media or the pressure between the filter and motor after a minimum threshold has been exceeded. Moreover, the three sensors in Martin measures the pressure in different areas in the vacuum cleaner. Further, Martin discloses a canister type vacuum cleaner with a dust bag mount. In other words, Martin’s invention is directed to a vacuum cleaner with a dust bag.

In marked contrast to the sensor in Martin, Applicant’s filter sensor and indicator for vacuum cleaners invention may be used with a bagless vacuum cleaner. Applicant’s claims call for a filter to which the filter monitor is connected. Further, in Applicant’s filter sensor and indicator, the pressure actuated electrical switch measures the **pressure drop across the filter** and the flow inducing device to determine whether a minimum absolute pressure threshold has been exceeded. Moreover, the pressure actuated electrical switch measures **the pressure between the filter and motor** to determine a filter condition suggesting cleaning or replacement. Martin does not teach a filter sensor and indicator for vacuum cleaner that measures the pressure drop across the filter or that measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement, as claimed in independent Claims 1 and 12, respectively. In view of this lack of teaching in Martin, Martin does not disclose each and every claim element of the claimed invention as required to sustain a rejection under § 102(b). Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 102 (b) be reconsidered and withdrawn.

#### **Rejection Based On Kurz In View Of Martin Under 35 U.S.C. § 103 (a)**

The Examiner rejected Claims 1-3 and 5-16 under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 4,233,597 to Kurz (“Kurz”) in view of U.S. Patent No. 4,733,431 to Martin (“Martin”). Applicant respectfully traverses this rejection for the following reasons.

The Examiner has conceded that Kurz is silent as to the specific construction of the vacuum cleaners and that Kurz does not disclose a vacuum cleaner having a flow chamber between the filter and the flow inducing device. The Examiner then refers to Miller which Applicant believes the Examiner means to be Martin to cure this deficiency. Applicant has addressed this rejection as such.

Accordingly, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the upstream filter arrangement of Miller into the vacuum cleaner of Kurz to allow the filter to collect dust prior to the air reaching the motor to increase the life expectancy of the motor. Applicant respectfully disagrees.

In order to establish obviousness of a claimed invention, all elements of the claims must be disclosed, taught or suggested by the prior art. None of the references teach Applicant's filter sensor and indicator, which measures the pressure drop across the filter or measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement.

Applicant agrees with the Examiner that Kurtz does not disclose a vacuum cleaner having a flow chamber between the filter and the flow inducing device. Kurtz discloses an apparatus for indicating pressure variation cause by the accumulation of dust in dust bags in a vacuum cleaner. See Abstract. However, Kurtz does not mention the specific construction of the vacuum cleaners. Further, Kurtz's invention as is Martin's is directed to a vacuum cleaner with a dust bag. This is unlike the present invention in which the filter sensors and indicator may also be used with a bagless vacuum cleaner.

As discussed above, Martin discloses a vacuum cleaner with performance monitoring system that includes three sensors for monitoring the differential pressure between (1) an intake port and the dust collecting compartment, (2) the outside of the vacuum cleaner and the intake port and (3) the discharge from the vacuum cleaner and the dust collecting compartment. See Col. 2 lines 40-45. However, Martin does not disclose a pressure actuated electrical switch that responds to an increase in pressure drop across a filter media or the pressure between the filter and motor after a minimum threshold has been exceeded. Moreover, the three sensors in Martin measures pressure different areas for use with a canister type vacuum cleaner with a dust bag.

None of the cited references disclose or suggest Applicant's filter sensor and indicator for vacuum cleaners including a the pressure actuated electrical switch that measures the pressure drop across the filter or that measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement. Thus, Applicants are entitled to claim the filter sensor and indicator for vacuum cleaners including a the pressure actuated electrical switch that measures the pressure drop across the filter or that measures the pressure between the filter and

motor to determine a filter condition suggesting cleaning or replacement as set forth in independent Claims 1 and 12.

Applicant respectfully submit that the claimed filter sensor and indicator for vacuum cleaners is not obvious over the teaching of Kurtz in view of Martin. In addition, one skilled in the art would find nothing in Kurtz or Martin alone or in combination that would disclose, teach or suggest the claimed composition or any reason for making it. This is because there is no motivation taught in any of the references to combine the references in such a way to provide the filter sensor and indicator for vacuum cleaners as claimed. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 103 (a) be reconsidered and withdrawn.

**Rejection Based On Martin Or Kurz In View Of Martin And Further In View Of Naquin, Jr. Under 35 U.S.C. § 103 (a)**

The Examiner rejected Claims 4 and 17 under 35 U.S.C. § 103 (a) as being unpatentable over U.S. Patent No. 4,733,431 to Martin ("Martin") or U.S. Patent No. 4,233,597 to Kurz ("Kurz") in view of Martin as applied to Claims 1 or 12 above and further in view of U.S. Patent No. 5,917,141 to Naquin, Jr. ("Naquin, Jr."). Applicant respectfully traverses this rejection for the following reasons.

The Examiner has conceded that Martin or Kurtz does not disclose the indicator being an audible indicator or a light emitting diode. The Examiner then refers to Naquin, Jr. to cure this deficiency. Accordingly, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the audible alarm and LED of Naquin, Jr. into the filter monitors of Martin or Kurz in view of Martin to allow an operator to be alerted of the clogged filter condition even if they are not looking at the vacuum cleaner and to provide light having a long life and low energy requirement, respectively. Applicant respectfully disagrees.

In order to establish obviousness of a claimed invention, all elements of the claims must be disclosed, taught or suggested by the prior art. None of the references teach Applicant's filter sensor and indicator, which measures the pressure drop across the filter or measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement.

As stated above, both Martin or Kurtz do not disclose Applicant's filter sensor and indicator for vacuum cleaners including a the pressure actuated electrical switch that measures the pressure drop across the filter or that measures the pressure between the filter and motor to determine a filter condition suggesting cleaning or replacement.

In regards to Naquin, Jr., Naquin, Jr. discloses an air filter monitoring device attachable to the cover grate of an air return of an air conditioning system that can detect a clogged filter condition and provides an alerting output. See Column 1, lines 50-53. However, Naquin, Jr. does not disclose a filter sensor and indicated directed to vacuum cleaners. One skilled in the art would not look to Naquin, Jr. to correct the deficiency in Martin and Kurz which is directed to vacuum cleaners not air conditioners. In view of the subject matter of Naquin, Jr., Applicant respectfully submits that the three references are not properly combined.

Applicant respectfully submit that the claimed filter sensor and indicator for vacuum cleaners is not obvious over the teaching of Martin or Kurtz in view of Naquin. In addition, one skilled in the art would find nothing in Martin, Kurtz or Naquin alone or in combination that would disclose, teach or suggest the claimed composition or any reason for making it. This is because there is no motivation taught in any of the references to combine the references in such a way to provide the filter sensor and indicator for vacuum cleaners as claimed. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 103 (a) be reconsidered and withdrawn.

It is respectfully submitted that in view of the amendment and above remarks, the application is in condition for final allowance. Accordingly, the Examiner is respectfully requested to review that application at an early date with a view towards issuing a favorable action thereon. If upon review of the application the Examiner is unable to issue an immediate Notice of Allowance, the Examiner is requested to telephone the undersigned attorney with a view towards resolving any outstanding issues.

Early and favorable action is earnestly solicited.

Respectfully submitted,

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